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ABSTRACT

This activity is one of a series of 17 teacher-developed instructional activities for geography at the secondary grade level described in SO 009 140. This activity investigates land-use conflict between conservationists and developers in Florida, through dialogue and discussion approaches. A dialogue between two main characters is Presented which may be recorded or played by students. In the dialogue, Susie, an eighth grader from New York, is visiting her uncle who is a resident of Tampa, Florida. The dialogue provides data about a mineral swamp wilderness--Rookery Bay--which is an ideal nursery for birds and fish. Susie and her uncle discuss conservation and ecology measures in land development in nearby sites. The discussion points out that Rookery Bay will be affected by the growth and development surrounding it, and that developers need to employ ecological safeguards to protect these areas. After the dialogue, students discuss the relationship between environmental quality and quick financial gains. Maps of the area and swamp photographs are provided. (DB)

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SO 009 154

National Council for Geographic Education

INSTRUCTIONAL ACTIVITIES SERIES IA/S-5

ROOKERY BAY: CAN CONSERVATION AND DEVELOPMENT COEXIST?

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In Florida, very little effort has been made by developers to conserve land or wildlife. It appears, however, that at last development may include consideration of conservation and ecology near Naples. Will development indeed maintain the necessary safeguards to protect Rookery Bay and other similar natural areas? Will insufficient planning and the desire for quick gains overlook necessary conservation measures? These and related questions will be discussed by participants after analysis of materials on tne Rookery Bay Project.

"Rookery Bay: Can Conservation and Development Coexist?"

The dialogue that appears in this paper concerns three individuals. The first two are the more important and they discuss the Rookery Bay situation. Suzie, an eighth grader from New York, is visiting her Uncle George, who is a resident of Tampa, Florida.

The dialogue should be taped. If a tape recorder is not available, the teacher may choose students to play the three parts. Parenthetical references are to the visuals that follow the dialogue. You may project these on a screen or wall by using an opaque projector or an overhead projector.

At the conclusion of the dialogue, there should be time for discussion. You might ask why the dialogue ended as it did. Use student or teacher-made questions such as the following:

1. Will development indeed maintain the necessary safeguards to protect Rookery Bay and other similar natural areas?

2. Can the ecology of a state be conserved with more than 2,000 new residents moving into it each week?

3. Why budget a large sum of money each year to the chambers of commerce for advertising the community or the state if the ecology is already threatened by the population growth?

4. Will the desire for quick gains through shortsighted planning prevent necessary conservation measures being taken by developers?

5. Would you call the Rookery Bay Project a success story? Why or Why not?

Scenario

Suzie: I have been reading in the paper about Rookery Bay. What and where is Rookery Bay, Uncle George?

Uncle George: Rookery Bay, about 5,000 acres big, is a water and mangrove swamp wilderness located near Naples in Collier County, Florida. That's about one hundred to one hundred and fifty miles south of us here in Tampa. It's an estuary where fresh water from the land surface contributes minerals to the life system of the Gulf of Mexico. You know about the food chain of the sea, don't you?

Suzie: You mean minerals are used by tiny plants in the sea and fish eat the plants or other fish. Yes I know that.

Uncle George: Good! Well, because of that, Rookery Bay is an ideal nursery for fish, shellfish, waterfowl, wading birds and shore

birds. Brown pelicans, ospreys and bald eagles rear their young there while the manatee and porpoise play in the bay. Notice the pictures in the article you're reading. These show how mangrove islands appear.

Suzie: It's certainly a twisted, tangled mass isn't it?

Uncle George: They certainly are. The islands form around that tangle. The islands are usually covered by water at high tide and sometimes at low tide. Water often flows between the roots. Sand and silt collect around the tangle. Presto! Hundreds of low islands and a salt water swamp.

Suzie: Where do the animals live in this swamp?

Uncle George: The birds build their nests in the trees. Other animals find high enough ground on these islands. And, of course, the fish and other marine life are found in the water. See the Gulf of Mexico on the map of South Florida (Fig. 4)? It's one big aquarium -- Nature's of course.

Now Suzie, you also asked where it is. Look at the map of South Florida. Rookery Bay is south of Naples. See, there it is.

Suzie: How did all of this about Rookery Bay get started?

Uncle George: A major step took place in Naples in the spring of 1964 when the Collier County Conservancy was formed.

Suzie: C.C.C.

Uncle George: Yes, but we call it the Conservancy for short. The main objective of the group was to preserve what it could of the wilderness sections of this area. They were disappearing very rapidly.

The project of immediate concern was Rookery Bay. It has served as a recreational area for years but developers were planning to buy it, build a road into it and sell home-sites. If this happened, it would mean the end of an unspoiled estuary that was noted as a fertile breeding ground and nursery for some 70 varieties of sport and commercial fish along with the other wildlife I told you about earlier.

Suzie: How did the Conservancy get the land? Did someone give it to them, or did they have to buy it?

Uncle George: The land was privately-owned and the price of the original 1,600 acres was $300,000.

Suzie: Gosh! For swamp land?

Uncle George: Yes. The Conservancy bought a two and one-half year option on it and then appealed to the people of the county for support.

The appeal was not in vain. Fifteen hundred persons sent in amounts ranging from a few coins to several thousand dollars. The drive was joined by fifteen clubs and organizations in Naples, and the National Audobon Society pledged to match the contributions of the Conservancy dollar for dollar.

Since that time additional land has been acquired. The total area within the sanctuary is now 5,000 acres. The costs have been met by fund-raising campaigns within Naples. Contributions have come from county school children, local citizens, other interested people of various parts of the country and celebrities such as Arthur Godfrey, who gave $50,000. A drive which began in March, 1971 raised $740,614 in two months.

Suzie: Gol-ly. Where there's a will there's a way.

Uncle George: Apparently so. The sanctuary was saved after its purchase in 1966, but the Conservancy knew it could still be seriously damaged by indiscriminate development of an additional 15,000 acres of land in the surrounding area. Hoping that a plan for development could be worked out that would be satisfactory to the conservationists as well as the land owners, the Conservancy appealed to the Conservation Foundation, a national organization in Washington, D.C. The Foundation agreed to help and sent technicians to Rookery Bay in 1967. The Ford Foundation financed the entire project.

Suzie: Wait a minute, Uncle George. You mentioned indiscriminate development or something like that. What does that mean?

Uncle George: Indiscriminate development means dredging, filling in swamps and building without a plan to protect the natural environment. This would destroy both land and marine life in the area. Here! Look at the 1970 Rookery Bay Map (Figure 5).

Suzie: Uncle George, I don't see too many things that I understand about this map.

Uncle George: Yes dear, it is quite complicated at first glance.

Suzie: Uncle George, I think you'll have to explain part of the legend to me. I think I know what water quality means. That is where they check to see if the water is polluted, isn't it?

Uncle George: Right. But the water quality stations also determine the <u>degree</u> of pollution.

Suzie: Does the weather station tell the temperature and speed of the wind?

Uncle George: No, not quite. It does give a continuous record of wind velocity and wind direction to aid in interpreting information about the tides. You must have learned about the effect of wind on water. That's how waves are formed.

Suzie: What do the hydrographic, sediment and trawling stations do?

Uncle George: The hydrographic stations have instruments which produce a continuous record of current direction and velocity, temperature, and amount of water coming in with the tide in terms of depth and salinty.

Suzie: Salinity means the amount of salt in the water doesn't it?

Uncle George: Yes, it does. And you know that much marine life is sensitive to how much or how little salt is in the water.

The sediment traps at the sediment stations determine levels of inorganic and organic material from agricultural and sewage sources. The trawling stations are places where samples of marine life are taken periodically.

Suzie: Boy! The project certainly considered a lot of things.

Uncle George: Sure did.

Suzie: A question, Uncle George: Stopper Creek doesn't look like it's connected to Rookery Bay. Where does the water go?

Uncle George: At high tide the water covers the roots. Remember? Besides the water flows through the mangrove roots.

Suzie: The Conservation Foundation certainly has done a great thing for South Florida.

Uncle George: Yes, but the Conservation Foundation did even more. It posed five basic measures to accomplish the dual objectives of development and conservation. One was a water pollution prevention program to cover Rookery Bay's natural drainage area. Secondly, a system of canals, diversion structures, and stilling basins to stabilize the flow of fresh water into the sanctuary was recommended. Thirdly, planning and development of all or most of the private lands were to be coordinated. Fourthly, approximately 1,100 acres of land were to be converted into many miles of valuable waterfront real estate by the creation of a system of navigable waterways. Finally, cluster, open space and other modern design practices were to be used in the area. These would include housing, business places, marinas, parks, schools, churches, and other community facilities.

Overall, proposal seeks to maintain conditions necessary for animal and plant life which have made Rookery Bay estuary one of the most productive known. Also, the proposal seeks a way for the construction of canals to permit filling of low lands and to allow for the drainage of water so developers could realize economic benefits. See here. Look at this map (Figure 6).

Suzie: Uncle George, does this map in the article have something to do with the proposal?

Uncle George: Yes, let us look at the map for just a moment. First, navigable canals will be dug around Rookery Bay Sanctuary. Also the map shows the proposed roads going into the undeveloped area.

Suzie: How will you get to some of these islands?

Uncle George: By bridge or maybe by ferry.

Suzie: Why are there no roads going to the middle island?

Uncle George: Much of the wildlife, especially bald eagles, would be disturbed by automobile traffic. A sanctuary and a zoo are two different things.

Suzie: Boy, those Foundation people have thought of everything. This looks like a very good plan.

Uncle George: Yes, it seems to be. This plan was presented to local developers and was received favorably. See that quote of Hunter Moss? He is a Miami real estate consultant, president of the Urban Land Institute, one of the developers of Boca Raton, Florida and a planner of the Baltimore Urban Renewal Development. See what he says? Naples was on the

> threshold of a great future. Development of Rookery Bay is not just a dream. It has all the elements for success but it has to be nurtured. The area offers one of the most unique opportunities I have ever seen. However, it must be planned right, and executed right.[1]

End of quote. The proposal also was praised by Norman Herrin, vice-president of the Collier Corporation and chairman of the county's planning and zoning board.

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1. "Wide Interest in Rookery Bay Plan," Naples Daily News, (May 17, 1968), p. 1.

Also, the Deltona Corporation composed of the primary developers of Marco Island just south of Naples have adopted some of the concepts and ideas of the Rookery Bay Plan. Other development plans which have adopted these concepts and ideas are those for Black Island (south of Fort Myers Beach) and Vanderbilt Beach in North Naples.

Suzie: Yes, Uncle George, I've read stories about the rapid growth of Florida and the large sums of money being invested in land.

Uncle George: This is very true. The Florida land development industry is more prosperous than ever before. Many fly-by-night developers are gone and in their place are bigger and "better heeled" operators. Walt Disney, for example, spent about $5 million for 27,000 acres near Orlando. The Pennsylvania Railroad paid $18.3 million for a 51% interest in Arvida Corporation, which is a large land development company. The Westinghouse Electric Corporation spent $65 million for Coral Ridge Properties, Inc. Gulf-American Corporation has for some time been Florida's largest single land development company. Its land sales in 1967 amounted to 281 million dollars. These are only some of the large Florida developers.

Of course, there have been some problems. Gulf American Corporation has been accused of improper sales practices. Suit has been filed by the state against three developers who are presently draining pine and cypress swamps along the northern border of Everglades National Park. The suit claims that such work interrupts the natural flow of water through the wilderness area and upsets food chains. This kind of activity contributed to the twelve month draught that in 1971 turned much of southern Florida into a tinderbox of raging fire and smoke-filled skies.

Suzie: Yes. That must have been terrible. I remember pictures of it on television back home.

Uncle George: Well, I think you have the idea. Men are not always angels. One huge coastal development near Naples recently removed a natural mangrove-lined shore in favor of concrete sea walls. A spokesman for the builders was asked to set aside a refuge for that area's few remaining eagles. The man replied: "It's all been sold. You can buy it back for $250,000."[2]

Suzie: With all this going on, can there be conservation of the natural environment at all?

2. Time 97 (June 28, 1971), p. 52.

Uncle George: That's the question. It's hard to answer. Even when the builders attempt to protect the environment they upset natural habitats because of the very size of their developments. When canals honeycomb densely populated areas there is always danger of pollution and sometimes salt water intrusion.

Suzie: It seems to me that the government would do something to save the natural environment.

Uncle George: Sometimes the government will try to help save the natural environment. Often, however, governments move too slowly and sometimes even they help to destroy the environment.

The Army Corps of Engineers since 1949 has created 1,400 miles of canals in the Everglades regularly diverting billions of gallons of water into the Atlantic Ocean. Available water was used to irrigate crops while thousands of fish, birds and animals died in the Everglades National Park in droughts of the 1960's and 1971.

Conservationists have been responsible for halting the construction of the Cross-Florida Barge Canal which was under supervision of the Army Corps of Engineers. Conservationists believe the canal is draining a regional life-system, destroying the Oklawaha River and will possibly disrupt Florida's underground waters. State officials and Army engineers deny this.

The Dade County Port Authority had made plans to construct a huge jetport six miles from the northern border of Everglades National Park. Because of efforts of conservationists, Transportation Secretary Volpe and former Secretary of the Interior Hickle, construction was halted in 1969 and a study was made by a team of the U. S. Geological Survey. Its report indicated that the jet training port would cause progressive damage to the park and the passenger jetport would cause irreversable damage.

Public officials are continuing to study the overall implications of plans and suggestions made by conservationists and developers concerning the jet port, the cross-barge canal and private land development as well as the smaller project at Rookery Bay. As one Collier County Commissioner stated regarding Rookery Bay: "We are vitally interested but we have to take a broad view of the overall effect."[3]

Suzie: I think I'm getting confused. Earlier in our discussion I thought things were looking good for Florida and Rookery Bay but now I'm not sure.

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3. "Wide Interest in Rookery Bay Plan," Naples Daily News, (May 17, 1968), P. 1.

Uncle George: Suzie, that's what makes environmental quality an issue. South of Florida in the Caribbean Sea, the Conservation Foundation made a study of Dominica and made recommendations. However, the people of Dominica seem to be less interested in conservation and more interested in development than their more affluent neighbors to the North. Can we tell Dominicans what we think best for them?

Aunt Hilda: George! Suzie! It's time to eat.

Suzie: I'm not hungry.

Plate 1

Plate 2

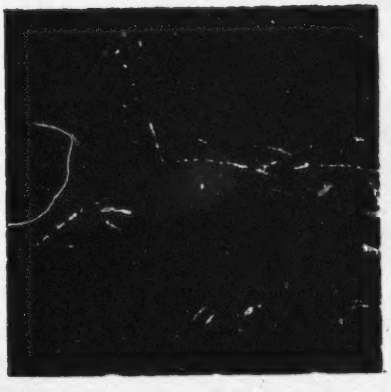
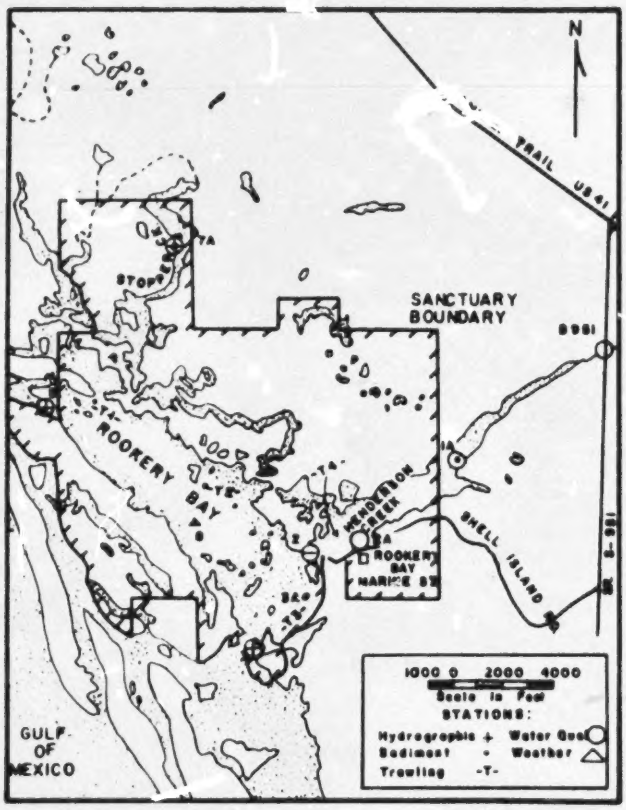
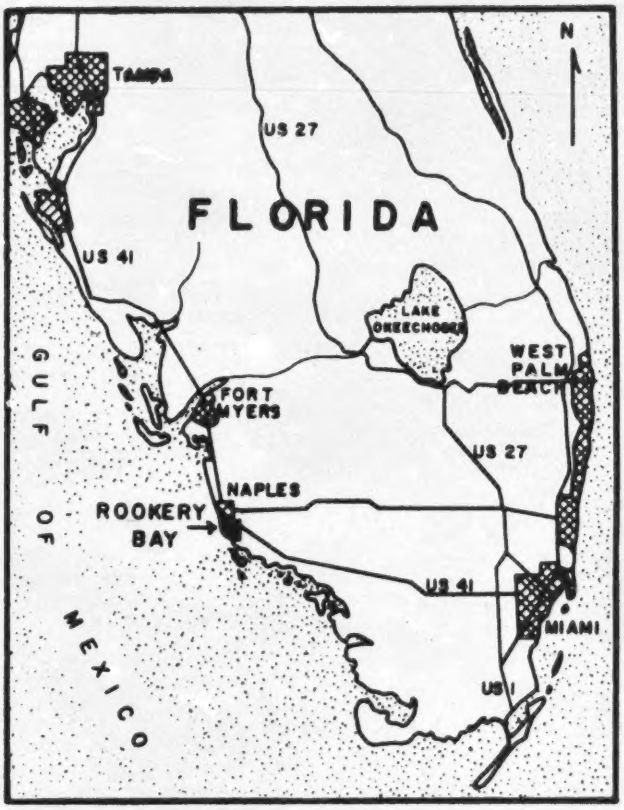


Plate 3





Map Reference Courtesy of B.J. Yokel, U. of Miami